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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/551,896

10/10/2006

Jurgen Beyer

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EXAMINER

KHAN, MEHMOOD B

ART UNIT

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2617

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/551,896	Applicant(s) BEYER ET AL.	
	Examiner MEHMOOD B. KHAN	Art Unit 2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 September 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>10/10/2006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

- Applicants have elected Group I, claims 1-8.
- Please see lack of unity below, followed by a rejection of claims 1-8.

Election/Restrictions

Restriction is required under 35 U.S.C. 121 and 372.

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted.

Group I, claim(s) 1-8, drawn to a method for soft handover.

Group II, claim(s) 9-14, drawn to a method for traffic load balancing.

The inventions listed as Groups I and II do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: Group I lacks the special technical feature of Group II, such as determining a statement regarding the coverage situation in the uplink and downlink based on the acquired measurement data under specification of an assumed traffic load of the network, wherein the measurement data are acquired while the network is idle. Group II lacks the special technical feature of Group I, such as preparing an interference matrix based on the acquired measurement data, wherein the interference matrix reflects a statement regarding the

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interference relationship of each base station with other base stations, wherein base stations that are necessary for a Soft Handover, SHO, are not rated as interferers.

Claim Objections

Claims 4 and are objected to because of the following informalities: Claim 4 recites the term “ration”. Appropriate correction is required.

Claim 8 recites the term “ratio coverage” which should be changed to – radio coverage –. Appropriate correction is required.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claim(s) 1 is/are rejected under 35 U.S.C. 101 as not falling within one of the four statutory categories of invention. While the claims recite a series of steps or acts to be performed, a statutory “process” under 35 U.S.C. 101 must (1) be tied to another statutory category (such as a particular apparatus), or (2) transform underlying subject matter (such as an article or material) to a different state or thing (Reference the May 15, 2008 memorandum issued by Deputy Commissioner for Patent Examining Policy, John J. Love, titled “Clarification of ‘Processes’ under 35 U.S.C. 101”). The instant claims neither transform underlying subject matter nor positively tie to another statutory category that accomplishes the claimed method steps, and therefore do not qualify as a

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statutory process. The claimed method steps of acquiring and preparation are not tied to an apparatus or device for carrying out the above steps.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites the limitation "... specified area elements of a defined", which renders the claim vague and indefinite since it is not clear as to what is meant by "a defined" as recited in claim 1, line 5.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over O'Byrne et al. (US 6,549,781 herein O'Byrne) in view of Plehn (US 5,839,074).

Claim 1, O'Byrne discloses a method for analyzing the interference and coverage situation in UMTS subnetworks (**Col 1: 13-16**), comprising the steps: O'Byrne discloses

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acquiring measurements data within specified area elements of a defined **(Col 4: 33-37, where O'Byrne discloses signal strength at a given location)**, O'Byrne discloses wherein, in each area element, the received signal power of at least one downlink pilot channel of multiple base stations that can be received in this area element **(Col 4: 33-45, where O'Byrne discloses pilot strength and interference measurements)**, O'Byrne discloses the total background noise power in the analyzed frequency band are measured **(Fig. 3: 305-330, where O'Byrne discloses a process for analyzing pilot strengths to interference ratios)**, O'Byrne discloses wherein the sorting reflects a statement regarding the interference relationship of each base station with other base stations, wherein base stations that are necessary for a Soft Handover, SHO, are not rated as interferers **(Col 7: 17-38, where O'Byrne discloses sorting base stations based on pilot strengths and whether stations can be used for handoff, and also shows whether pilots are interferers or are contributors to the signal)**.

O'Byrne does not explicitly disclose preparing an interference matrix based on the acquired measurement data.

In an analogous art, Plehn discloses preparing an interference matrix based on the acquired measurement data **(Col 5: 27-51, where Plehn discloses interference caused by one base station to another; Fig. 1, an interference matrix)**. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify O'Byrne to generate an interference matrix as taught by Plehn so as to provide for a uniform utilization of the available spectrum **(Col 2: 29-31)**.

Claim 2, O'Byrne discloses that for the analysis of the interference situation and radio coverage, a statement regarding the radio coverage in the downlink is determined on the basis of the acquired measurement data under specification of an assumed traffic load of the network **(Col 11, where O'Byrne discloses interference calculation and traffic load)**.

O'Byrne does not explicitly disclose a statement regarding the radio coverage in the uplink is determined on the basis of the acquired measurement data under specification of an assumed traffic load of the network.

In an analogous art, Plehn discloses a statement regarding the radio coverage in the uplink is determined on the basis of the acquired measurement data under specification of an assumed traffic load of the network **(Col 3: 7-20, where Plehn discloses interference and load and rate of utilization)**. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify O'Byrne to generate an interference data as taught by Plehn so as to provide for a uniform utilization of the available spectrum **(Col 2: 29-31)**.

Claim 3, O'Byrne does not disclose that the measurement data are acquired while the network is idle, i.e., without traffic load.

In an analogous art, Plehn discloses that the measurement data are acquired while the network is idle, i.e., without traffic load **(Col 3: 7-20, where Plehn discloses utilization and capacity)**. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify O'Byrne to generate an

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interference data as taught by Plehn so as to provide for a uniform utilization of the available spectrum **(Col 2: 29-31)**.

Claims 4-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over O'Byrne in view of Plehn in view of Laiho et al. ("Radio Network Planning Process and Methods for WCDMA" herein Laiho).

Claim 4, as analyzed with respect to the limitations as discussed in claim 2.

O'Byrne in view of Plehn does not explicitly disclose the ration [sic] of the received signal power from the analyzed cell (l.sub.eig) and the received signal powers from all other cells (l.sub.fr).

In an analogous art, Laiho discloses the ration [sic] of the received signal power from the analyzed cell (l.sub.eig) and the received signal powers from all other cells (l.sub.fr) **(Fig. 3, where Laiho discloses $I = I_{\text{oth}} / I_{\text{own}}$)**. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify O'Byrne in view of Plehn to analyze interference of cells as taught by Laiho so as to assign base station transmit powers **(Pg 6: section C2)**.

Claim 5, as analyzed with respect to the limitations as discussed in claim 4.

Claim 6, O'Byrne in view of Plehn does not explicitly disclose that the radio coverage is determined separately for each available service.

In an analogous art, Laiho discloses the radio coverage is determined separately for each available service (**Pg 5: III: A (Introduction to static radio network planning simulator), where Laiho discloses different terminal speeds**). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify O'Byrne in view of Plehn to assign terminal speeds as taught by Laiho so as to classify mobile with Eb/No requirements (**Pg 5: III: A**).

Claim 7, O'Byrne in view of Plehn does not explicitly disclose that a service-specific effective data rate (R) is used as a criterion for determining the radio coverage.

In an analogous art, Laiho discloses that a service-specific effective data rate (R) is used as a criterion for determining the radio coverage (**Equation 18**). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify O'Byrne in view of Plehn to assign terminal speeds as taught by Laiho so as to classify mobile with Eb/No requirements (**Pg 5: III: A**).

Claim 8, O'Byrne in view of Plehn does not explicitly disclose that a service-specific desired value for the signal-to-noise ratio (E_b/N_o) is used as a criterion for determining the ratio [sic] coverage.

In an analogous art, Laiho discloses that a service-specific desired value for the signal-to-noise ratio (E_b/N_o) is used as a criterion for determining the ratio [sic] coverage (**Pg 6: C2, where Laiho discloses MS specific Eb/No**). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention

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was made to modify O'Byrne in view of Plehn to assign terminal speeds as taught by Laiho so as to classify mobile with Eb/No requirements (**Pg 5: III: A**).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MEHMOOD B. KHAN whose telephone number is (571)272-9277. The examiner can normally be reached on Monday - Friday 8:30 am - 5:00 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lester Kincaid can be reached on 571-272-7922. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Mehmood B. Khan/
Examiner, Art Unit 2617

/Lester Kincaid/
Supervisory Patent Examiner, Art Unit 2617